REMARKS

These remarks are directed to the office action mailed June 9, 2009, setting a three month shortened statutory period for response set to expire on September 9, 2009. The office action issued by the Examiner and the citations referred to in the office action have been carefully considered.

Prompt reconsideration is requested in view of the above claim amendments and the following remarks. As indicated, amendments introduce no new matter. Claims 5 and 23 have been cancelled and claims 38-39 have been added. Claims 1-4, 6-22, and 24-39 are currently pending.

Specification

The disclosure has been objected to because of informalities. The specification has been amended to overcome the objection. In particular, the use of the word "atomicity" has been changed to "atomic" in paragraph [0006] and the use of the words "tungstic" and "molybdic" in paragraph [0029] have been changed to "tungsten" and "molybdenum," respectively. No new matter has been added.

Claim Objections

Claims 5 and 23 have been objected to as being of improper dependent form. Claims 5 and 23 are cancelled thus rendering this objection moot.

Claim Rejections - 35 USC §112

Claims 10, 14-16, 28, and 32-34 have been rejected under 35 U.S.C. §112 as being indefinite for failing to particularly point out and distinctly claim the subject matter.

The phrase "such as" in claims 10 and 28 has been removed. The phrase "Shumitt Inverter" and been corrected to read as "Schmitt Inverter." No new matter has been added.

Applicants submit that claims 10, 14-16, 28, and 32-34 are now patentable under 35 U.S.C. §112.

Claim Rejections - 35 USC §102 and §103

Claims 1-6, 9, 21-24, and 27 have been rejected under 35 U.S.C. §102(b) as being anticipated by Taniguchi et al. (US 2002/0070109). Claims 1-37 have also been rejected under 35 U.S.C. 103(a) as being obvious over Taniguchi in view of various combinations of Makundan et al. (US 6,656,336), Sugiyama et al. (US 4,704,536), Christen et al. (US 4,390,869), Maki et al. (US 2004/0026268), Schoeb (US 2002/0000228), and Yun.

Applicants submit that Taniguchi is directed at a **hydrocarbon** sensor. In contrast, Applicants teach a **hydrogen** sensor. Therefore, the technical field of Taniguchi is different from the technical field of Applicants' invention.

Furthermore, paragraphs [0037] and [0040] of Taniguchi teach only that the cathode 12a (or anode 12b) contains Au and Al, only Au or Pt, and does not teach that the cathode 12a contains Au and Al and the anode 12b contains Pt. As cited in paragraph [0037] of Taniguchi, at least one electrode (electrode A) selected from the cathode 12a and anode 12b contains Au and Al. In particular, cathode 12a preferably contains Au and Al. Referring to paragraph [0040] of Taniguchi, in the case where one of the cathode 12a and the anode 12b is not the electrode A containing Au and Al, an electrode made of Pt or an electrode made of Au can be used as such an electrode. There is no teaching or suggestion by Taniguchi of a cathode that contains Au and Al **and** an anode that contains Pt.

Referring to paragraph [0042] of Taniguchi, the reason cathode 12a (elect rode A) contains Au and Al is that the hydrocarbon sensor 10 has a great ability to block oxygen at electrodes. In contrast, Applicants teach the first electrode made of , e.g., Pr, Pd or the like functions as a detecting electrode for hydrogen gas and the second electrode made of, e.g., Ni, Ti or the like functions as a standard electrode (paragraphs [0033] to [0035]). Therefore, both of the first electrode and the second electrode are intended to have an ability to block oxygen.

In view of the aforementioned arguments, Applicants submit that combining Taniguchi in view of any of the other cited references does not teach or suggest all of the elements of claims 1-37.

In particular, Schoeb teaches only the fundamental function of the gas sensor. Paragraph [0038] of Schoeb only recites that the gas sensor 8 has a light source 8c, for example as an LED or a laser diode, and measures the volume flow, the pressure and the gas composition.

In contrast, in amended claim 20, Applicants teach a Fail-Safe function that includes a photo sensor 29 and monitors the contamination of the sensor component of the hydrogen gas sensor element from external environment. Namely, the Fail-Safe function does not intend to measure the gas composition or the like which is inherent function of a gas sensor, but detects the contamination of the inherent gas sensor.

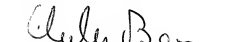
Applicants submit that Taniguchi does not teach or suggest all of the elements and limitations of claims 1-6, 9, 21-24, and 27. Therefore claims 1-6, 9, 21-24, and 27 are not anticipated and are thus patentable under 35 U.S.C. §102. Furthermore, Taniguchi in view of any of the other cited references does not teach or suggest all of the elements of claims 1-37. Therefore claims 1-37 are not obvious and are thus patentable under 35 U.S.C. §103.

Conclusion

It is respectfully submitted that all of the Examiner's objections have been successfully traversed and that the application is now in order for allowance. Accordingly, reconsideration of the application and allowance thereof is courteously solicited.

The Director is authorized to charge any additional fee(s) or any underpayment of fee(s), or to credit any overpayments to **Deposit Account Number 50-2638**. Please ensure that Attorney Docket Number 075954-010100 is referred to when charging any payments or credits for this case.

Respectfully submitted,



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